Jurnal Kesehatan Reproduksi, 9(1), 2018: 27-36
DOI: 10.22435/kespro.v9i1.891.27-36

PREGNANCY INTENTION AND UTILIZATION OF MATERNAL AND CHILD HEALTH CARE SERVICES IN INDONESIA

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Submitted 31 May 2018; reviewed 3 June 2018; approved 30 June 2018

Abstrak

Latar belakang: *Antenatal care, persalinan oleh tenaga kesehatan, postnatal care serta imunisasi lengkap membantu meningkatkan kesehatan ibu dan anak.*
Tujuan: *Penelitian ini bertujuan untuk mengetahui hubungan antara perencanaan kehamilan dan pemanfaatan pelayanan kesehatan ibu dan anak.*
Metode: *Penelitian ini menggunakan data dari Survei Kesehatan Demografi Indonesia 2012. Empat model regresi digunakan untuk mengidentifikasi hubungan antara perencanaan kehamilan dan pemanfaatan pelayanan kesehatan ibu dan anak.*
Hasil: *Lebih dari seperlima (25,5%) responden menerima kelima jenis perawatan ibu dan anak. Lima belas persen wanita melaporkan bahwa kehamilan terakhir mereka tidak diinginkan. Perencanaan kehamilan berhubungan secara bermakna dengan penggunaan antenatal care yang memadai (OR: 0,53, 95% CI, 0,46-0,60), pemanfaatan antenatal care dan persalinan oleh tenaga kesehatan (OR: 0,62, 95% CI, 0,55-0,71), pemanfaatan antenatal care, persalinan oleh tenaga kesehatan dan postnatal care (OR: 0,82, 95% CI, 0,72-0,93), namun tidak berhubungan secara signifikan dengan pemanfaatan antenatal care, persalinan oleh tenaga kesehatan, postnatal care hingga imunisasi lengkap (OR: 1,06, 95% CI, 0,91-1,22) setelah dikontrol menggunakan variabel sosiodemografi dan faktor obstetrik.*
Kesimpulan: *Intervensi diperlukan untuk mengurangi kehamilan yang tidak diinginkan seperti meningkatkan akses ke layanan keluarga berencana.*

Kata kunci: *kehamilan yang tidak diinginkan, program pelayanan kesehatan ibu dan anak, SDKI*

Abstract

Background: Antenatal care, delivery by skilled birth attendants postnatal care and completed immunization help improve maternal and child health.
Objective: This study investigates the association between pregnancy intention and utilization of mother and child health care.
Method: The study used The Indonesian Demographic Health Survey 2012. Four regression models were used to identify the association between pregnancy intention and continuum of care for mothers and their children.
Results: More than one-fifth (25.5%) of the respondents received the five types of maternal and child health care. Fifteen percent of women reported that their last pregnancy was undesirable. Pregnancy intention was significantly associated with receiving adequate antenatal care (OR: 0.53, 95% CI, 0.46-0.60), utilization of antenatal care and delivery by skilled birth attendants (OR: 0.62, 95% CI, 0.55-0.71), utilization of antenatal care, skilled birth attendance and postnatal care (OR: 0.82, 95% CI, 0.72-0.93), but not for utilization of antenatal care, skilled birth attendance, postnatal care and completed immunization (OR: 1.06, 95% CI, 0.91-1.22) after controlling for socio-demographic variables and obstetric factors.
Conclusion: Interventions are needed to reduce unintended pregnancies such as improving access to family planning services.

Keywords: unintended pregnancy, maternal and child health care programs, IDHS

BACKGROUND

Maternal mortality ratio and under-five mortality rate are important indicators in health programs. The trend showed these indicators decreased in last two decades. Maternal mortality ratio decreased by 45 percent while under-five mortality decreased by 49 percent between 1990 to 2013.[1,2] Unfortunately, Indonesia maternal mortality ratio remained high in 2011. Indonesia was the third highest position for maternal mortality ratio (MMR) in the ASEAN countries after Laos and Cambodia and the fourth highest position for under-five mortality rate after Laos, Vietnam and Cambodia. Maternal hemorrhage and maternal hypertension led maternal cause of death in Asia.[3] The follow up study from Indonesian 2010 population census found that obstetrics factors such as maternal hypertension, hemorrhage, and puerperal infection led for Indonesian maternal death. Obstetrics factors could be early detected by sound maternal health services.[4]

Maternal and child health services have recently been highlighted as a core principle of programs for maternal, newborn, and child health. Maternal, neonatal and child health services are important to ensure maternal and child health. Adequate antenatal care (ANC), delivery by skilled birth attendant, postnatal care and completed immunization may reduce maternal and child morbidity and mortality.[5] Adequate antenatal care provides an opportunity to deliver interventions for improving maternal nutrition, providing health education, and encouraging skilled attendant at birth.[6] Access to skilled birth attendant and well equipped health infrastructures during delivery can reduce maternal mortality and morbidity and improve pregnancy outcomes. In addition, skilled birth attendance helps referral process to be done properly.[7,8] Immunization gives protection from immunization-preventable diseases such as polio, hepatitis B, diphtheria, pertussis, tetanus and measles and finally reduce under-five morbidity and mortality.[9] The 2012 Indonesia Demographic and Health Survey (IDHS) found that 79.6 percent mother had antenatal care at least four times visits in their last pregnancies, 83.1 percent of deliveries assisted by skilled birth attendants, 90 percent mothers had first postnatal care in 0-3 days after delivery and completed immunization coverage was 36 percent.[10] Time and place are the two dimensions that focus on maternal and child health care programs provision. The time dimension addresses the importance of linkages among the packages of maternal, neonatal and child health service delivery at different stages during the pregnancy, childbirth, and childhood periods. The place dimension links the various levels of care at home, community, and health facilities.[5,11] This study focused on maternal and child health care from pregnancy to childhood period.

Unintended pregnancies can have serious health, economic, and social consequences for mothers and their children. Many unintended pregnancies are terminated using illegal procedures that are risky for mothers and children.[12] Several studies have linked unintended pregnancies with adverse maternal behavior during pregnancy and postpartum including delayed and inadequate maternal and child health care utilization.[13–15] In contrast, several studies inadequately provide evidence support the association between pregnancy intention and maternal and child health care utilization.[16,17] Several studies found that individual, household and community factors had the association with utilization of maternal and child health services.[18–20] Studies about the association between pregnancy intention and maternal and child health care utilization are under researched in Indonesia. Therefore, this study aims to investigate the association between pregnancy intention and maternal and child health care utilization in Indonesia.

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ISSN: 2354-8762 (electronic); ISSN: 2087-703X (print)

METHOD

This study used the 2012 Indonesia Demographic and Health Survey (IDHS). Data downloaded from www.dhsprogram.com after the proposal was approved by the DHS Program. The samples of this study are women at age 15-49 who had at least one live birth in the five years prior to the survey and their children were at age between 1-4. The information collected whether women received care during the pregnancy until at time of the survey. The total of observation was 9,256 women and this study focused on the type of care they received for their most recent live birth.

The dependent variables in this study are maternal and child health care utilization. Maternal and child health care from pregnancy to postpartum (antenatal care, skilled birth attendance, postnatal care for mothers and children and completed immunization). The standard of adequate antenatal care (K4) consists of minimum one visit in the first trimester, one visit in the second trimester and two visits in the third trimester by health professional (doctors, midwives or nurses). Skilled birth attendance means births are helped by trained health professional (doctors or midwives). Postnatal care includes mother and baby health care. Postnatal care for mother means health care of the mother for the period of about six weeks postpartum by professional health worker (doctors, midwives, nurse). This study only analyzed postnatal care between 0 – 3 days postpartum according to maternal, newborn and child health core indicators. This period is critical to the management of postpartum hemorrhage, a leading cause of maternal deaths in developing countries.[21] Postnatal care for children is neonatal health care by professional health worker (doctors, midwives or nurses) in the first 28 days. Completed immunization consists of once BCG vaccination, three times diphtheria, pertussis and tetanus (DPT) vaccination, four times polio vaccination, four times Hepatitis-B vaccination, and once measles vaccination as the child immunization schedule.

Four logistic models are used to analyze the association between pregnancy intention and the utilization of maternal and child health care, from adequate antenatal care to completed immunization for their children. To identify association between pregnancy intention and utilization of antenatal care at the stage of pregnancy, we used Model I among all studied women with receiving adequate antenatal care (ANC) as the outcome. To identify the association between pregnancy intention and utilization of antenatal care and skilled birth attendance, we used Model II among all studied women with receiving antenatal care and skilled birth attendance (ANC & SBA) as the outcome. To identify the association between pregnancy intention and utilization of antenatal care, skilled birth attendance and postnatal care, we used Model III among all studied women with receiving antenatal care, skilled birth attendance and postnatal care as the outcome. To identify the association between pregnancy intention and utilization of antenatal care, skilled birth attendance, postnatal care and completed immunization, we used Model IV among all studied women with receiving antenatal care, skilled birth attendance, postnatal care and completed immunization for their children (ANC, SBA, PNC & Immunization) as the outcome.

This study use logistic regression and main independent variable in this study is pregnancy intention. Pregnancy intention divided into two categories, intended pregnancy and unintended pregnancy. Unintended pregnancy was measured using the standard DHS approach. Unintended pregnancy defined as a pregnancy that is either mistimed (sooner than desired) or unwanted (not desired at all). Control variables are socio-demographic factors, parity, and health insurance. The analysis was done using Statistical Package for the Social Science (SPSS).

RESULT

The study includes 9,256 women who had at least one live birth five years prior to the survey and their last-born children were at age 1 – 4 years in 2012. The average age of the women in the samples was 26.6 (±6.1) years old while the average number of total children ever born was 4.3 (±1.4). Table 1 shows sociodemographic characteristics of the

samples. The half of the samples (56.2%) had secondary level education. This study found that 14.6 percent women whose pregnancies of their most recent live birth were unintended. Higher proportion of unintended pregnancy were found among women at age more than 35-year-old, those lived in urban area, and those with high parity (Table 1).

Table 1. Percent distribution of respondents by pregnancy intention according to selected background variables, IDHS 2012 (n = 9256)

Covariate and category	Percentage	n	Pregnancy intention	
			Intended	Unintended
Maternal age at birth (years)				
<20	8.9	822	91.6	8.4
20-34	75.3	6,974	87.8	12.2
35+	15.8	1,460	70.1	29.9
Type of residence				
Urban	50.0	4,626	83.4	16.6
Rural	50.0	4,630	87.3	12.7
Parity				
1	35.5	3,287	96.7	3.3
2-4	57.6	5,327	81.0	19
5+	6.9	642	63.2	36.8
Education				
No education- primary	29.6	2,741	85.0	15.0
Secondary	56.2	5,205	85.0	15.0
Higher	14.2	1,310	85.3	14.7
Wealth index				
Poorest	22.5	2,081	86.2	13.8
Poorer	20.5	1,899	83.5	16.5
Middle	19.9	1,842	85.0	15.0
Richer	19.2	1,778	86.1	13.9
Richest	17.9	1,656	86.0	14.0
Ownership of health insurance				
No	58.1	5,381	85.8	14.2
Yes	41.9	3,875	85.3	14.7
Total		9,256	14.6	85.4

Source: author's calculation, IDHS 2012

Figure 1 shows the proportion of maternal and child health care in the samples. Figure 1 shows that 75.2 percent of women in the samples had adequate antenatal care. This study found that the proportion of women in the samples who had both antenatal care and skilled birth attendant was 67.7 percent. This study found that the proportion of adequate antenatal care, skilled birth attendant utilization and postnatal care utilization was 48.6 percent. Proportion of receiving complete set of maternal and child health services was even smaller (25.5%).

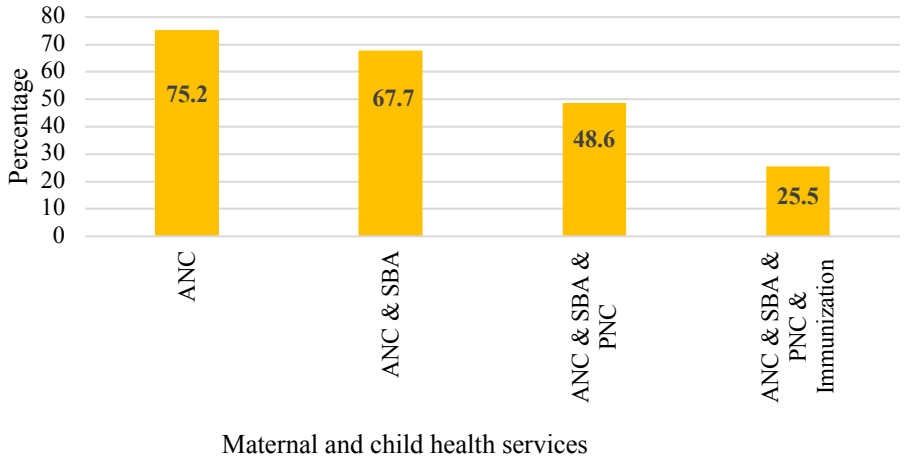

Figure 1. Proportion maternal and child health care, IDHS 2012

Source: author's calculation, IDHS 2012

Figure 2 shows that proportion of antenatal care was 77.2 percent among women with intended pregnancy. The proportion of utilization maternal and childcare from adequate antenatal care to completed immunization among respondents with intended pregnancies was 26.6 percent. Figure 2 shows that the proportion of adequate antenatal care among respondents with unintended pregnancies was 63 percent. The proportion of utilization of maternal and child health care from adequate antenatal care to completed immunization among respondents with unintended pregnancies was 25.9 percent. Another interesting finding was both women with intended and unintended pregnancy had low proportion for a continuum of care from adequate antenatal care to completed immunization.

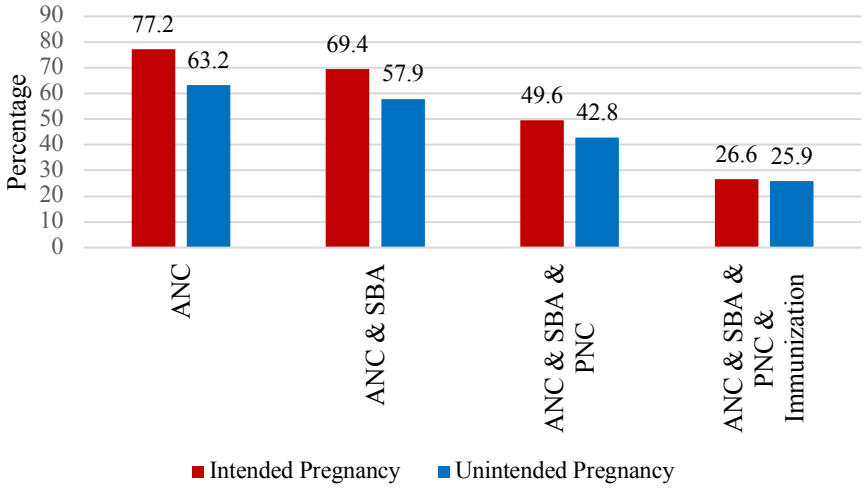

Figure 2. Proportion maternal and child health care according to pregnancy intention, IDHS 2012

Source: author's calculation, IDHS 2012

The results of regression analysis of this study are presented in table 2. This study found that pregnancy intention was associated with utilization of adequate antenatal care (Model I), utilization of adequate antenatal care and skilled birth attendant (Model II), and utilization adequate antenatal care, skilled birth attendant and postnatal care (Model III) but not with utilization of antenatal care, skilled birth attendant, postnatal care and completed

immunization (Model IV) after controlling for socio-demographic variables and obstetric factors. Women with unintended pregnancies were 47 percent less likely (OR: 0.53, 95% CI, 0.46-0.60) to have adequate antenatal care than women with intended pregnancy. Women with unintended pregnancy were 38 percent less likely (OR: 0.62, 95% CI, 0.54-0.71) to receive adequate antenatal care and skilled birth attendant utilization than women with intended pregnancy. In contrast, no significant differences of odds ratios were found between women with intended and unintended pregnancies in continuum of care from adequate antenatal care to completed immunization.

This study found that parity, education level, wealth index and insurance coverage had significant association with utilization of maternal and child health care from pregnancy to childhood period. Respondents with higher education level, higher wealth index and have insurance more likely to have maternal and child health care from adequate antenatal care to completed immunization. This study found that wealth index was the strongest determinant of utilization maternal and child health care. Respondents with higher parity less likely to have maternal and child health care from adequate antenatal care to completed immunization than primipara women.

DISCUSSION

This study examines the association between pregnancy intention and utilization of maternal and child health care in Indonesia. More than ten percent (14.6%) women reported that their pregnancy was unintended. This finding was similar to the 2013 Indonesian Basic Health Research (Riskesdas 2013) that the proportion of unintended pregnancy was 15 percent.[22] This study also found the prevalence of unintended pregnancy in Indonesia was lower compared to Bangladesh, India and Nepal.[23–25] This study also found that some women both with intended and unintended pregnancies who received adequate antenatal care were dropped out from the pathway of maternal and child health care in the next stage. The most dropouts occurred from postnatal period to completed immunization than other periods. One of the components of antenatal care is consultation. This component aims to give education to continue maternal health services in later period.[26] Model IV had the lowest percentage than other models. This can be caused by low completed immunization coverage.

This study found that pregnancy intention was significantly associated with maternal and child health care from adequate antenatal care to postnatal care. Women with unintended pregnancies less likely to have maternal and neonatal health care from adequate antenatal care to postnatal care for mothers and children. Several previous studies found similar result regarding maternal care utilization.[15,27,28] However, there were also studies in which no or inconsistent associations were reported.[29,30] There are several possible explanations of women with unintended pregnancies who did not use maternal and child health care or receive inadequate care. One hypothesis is that mothers with unintended pregnancies as compared to those with intended pregnancies, are less emotionally and financially prepared to face the demands of pregnancy and childbearing, and more less likely to care of themselves. Another argument is that women with unintended pregnancies recognized the pregnancy later than those with intended pregnancy. [31] Surprisingly, this study found that pregnancy intention was not associated with utilization of maternal and child health care from adequate antenatal care to completed immunization. This finding may be caused by low coverage of completed immunization of children from both intended pregnancies and unintended pregnancies. Several previous studies found similar results with this study.[32–34] However, this finding was inconsistent with other studies.[15,35]

Table 2. Results of the multivariate regression models, IDHS 2012

	Model I ANC		Model II ANC & SBA		Model III ANC & SBA & PNC		Model IV ANC & SBA & PNC & Immunization	
	Adjusted OR	95% CI	Adjusted OR	95% CI	Adjusted OR	95% CI	Adjusted OR	95% CI
Maternal age at birth (ref. = age<20)								
20-34	1.72***	1.45 - 2.05	1.87***	1.58 - 2.21	1.36***	1.16 - 1.60	1.09	0.91 - 1.31
35+	1.72***	1.35 - 2.11	2.18***	1.75 - 2.71	1.62***	1.32 - 1.98	1.19	0.94 - 1.49
Type of residence (ref. = rural)								
Urban	1.06	0.95 - 1.19	1.30***	1.17 - 1.45	1.12*	1.02 - 1.23	0.91	0.82 - 1.01
Parity (ref. = 1)								
2-4	0.85*	0.75 - 0.96	0.75***	0.67 - 0.84	0.78***	0.71 - 0.86	0.85**	0.76 - 0.95
5+	0.49***	0.39 - 0.60	0.41***	0.33 - 0.50	0.44***	0.35 - 0.54	0.52***	0.41 - 0.67
Education (ref. = no education- primary)								
Secondary	1.22**	1.09 - 1.37	1.47***	1.32 - 1.64	1.29***	1.16 - 1.43	1.23**	1.10 - 1.39
Higher	1.25*	1.04 -1.52	1.62***	1.34 - 1.96	1.54***	1.31 - 1.81	1.30**	1.09 - 1.54
Wealth index (ref. = poorest)								
Poorer	1.52***	1.32 - 1.74	1.69***	1.47 - 1.93	1.54***	1.34 - 1.76	1.50***	1.28 - 1.75
Middle	1.99***	1.71 - 2.32	2.52***	2.18 - 2.93	1.80***	1.57 - 2.07	1.71***	1.46 -2.01
Richer	2.86***	2.42 - 3.39	3.52***	3.00 - 4.13	2.26***	2.00 - 2.61	1.64***	1.39 - 1.94
Richest	3.83***	3.13 - 4.68	4.99***	4.12 - 6.03	2.91***	2.48 - 3.42	2.27***	1.90 - 2.72
Coverage by health insurance (ref. = no)								
Yes	1.2***	1.09 - 1.33	1.21***	1.09 - 1.33	1.30***	1.30 - 1.19	1.42***	1.29 - 1.56
Pregnancy intention (ref. = intended pregnancy)								
Unintended pregnancy	0.53***	0.46-0.60	0.62***	0.54 - 0.71	0.82**	0.72 - 0.93	1.06	0.91 - 1.22

*significant at $p < 0.05$, ** significant at $P < 0.01$, ***significant at $p < 0.001$.

Source: author's calculation, IDHS 2012

Wealth index was the strongest determinant of maternal and child continuum of care from adequate antenatal care to completed immunization. Women in higher wealth index were more likely to have maternal and child health care than women in the poorest wealth index. This finding may come with costs either directly or indirectly and those with resources are more likely to afford it. Several previous studies found similar results regarding wealth index and maternal health care.[36,37] Parity was negatively associated with maternal and child health care. Women with higher parity were less likely to have maternal and child health care than primipara women. This result was consistent with other studies.[38,39] Presumably, this may reflect the assumption that women of higher parity are less likely to have maternal and child continuum of care because of their maternity experiences, or they had a large family size means having fewer resources (both time and money) available to seek maternal and child health care.[38] This study found that education was positively associated with utilization of maternal and child health care. Women education reflects women empowerment, maternal and childcare knowledge and socioeconomic status. Studies demonstrate positive effect of level of education on receiving maternal and childcare.[40,41] Women who had insurance more likely to have maternal and child continuum of care. Financial incentives, including health insurance, can address the demand-side and supply-side factors which affect the use and provision of maternal and child health care.[42]

CONCLUSION

Our study found that pregnancy intention was associated with utilization of maternal and child health care utilization (adequate antenatal care to postnatal care). Women with unintended pregnancies were less likely to have adequate antenatal care, skilled birth attendance, and postnatal care. Efforts should be made to increase access to family planning information and services in order to reduce the high level of unintended pregnancies. Another finding was maternal and child health care from adequate antenatal care to completed immunization remained low. Moreover, encouraging the use of maternal health services at the time of antenatal care visit is important to encourage women with unintended pregnancies to complete maternal newborn and child care in the later period.

LIMITATION

Few limitations are reported in this analysis. Since the paper used cross-sectional data, no causal relationship can be made.

ACKNOWLEDGEMENT

We would like to thank DHS Program for giving permission to use this data. We are also immensely grateful to Evi Nurvidya Arifin and Dina Rizkiani for their comments on an earlier version of the manuscript.

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